## SEQUENCE LISTING

<110> Seino, Susumu; JCR Pharmaceuticals Co., Ltd.

<120> Protein Rim2

<130> GP35

<160> 4

<210> 1

<211> 1590

<212> PRT

<213> Mus musculus

<400> 1

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Ala Ser Gln Pro Pro Pro Gln Pro Glu Met Pro Asp Leu Ser His Leu
            20                  25                  30

Thr Glu Glu Glu Arg Lys Ile Ile Leu Ala Val Met Asp Arg Gln Lys
            35                  40                  45

Lys Glu Glu Glu Lys Glu Gln Ser Val Leu Lys Ile Lys Glu Glu His
        50                  55                  60

Lys Ala Gln Pro Thr Gln Trp Phe Pro Phe Ser Gly Ile Thr Glu Leu
    65                  70                  75                  80

Val Asn Asn Val Leu Gln Pro Gln Gln Lys Gln Pro Asn Glu Lys Glu
                85                  90                  95

Pro Gln Thr Lys Leu His Gln Gln Phe Glu Met Tyr Lys Glu Gln Val
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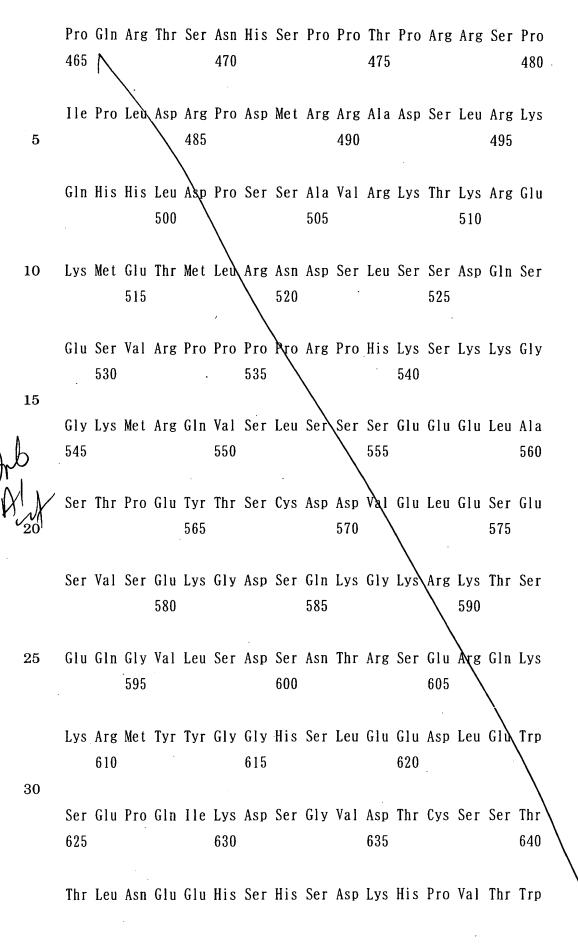
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      Lys Lys Met Gly Glu Glu Ser Gln Gln Gln Gln Glu Gln Lys Gly Asp
              115                    120                    125

  5   Ala Pro Thr Cys Gly Ile Cys His Lys Thr Lys Phe Ala Asp Gly Cys
              130                    135                    140

      Gly His Asn Cys Ser Tyr Cys Gln Thr Lys Phe Cys Ala Arg Cys Gly
 10   145                    150                    155                    160

      Gly Arg Val Ser Leu Arg Ser Asn Lys Val Met Trp Val Cys Asn Leu
                         165                    170                    175

 15   Cys Arg Lys Gln Gln Glu Ile Leu Thr Lys Ser Gly Ala Trp Phe Tyr
                         180                    185                    190

      Asn Ser Gly Ser Asn Thr Leu Gln Gln Pro Asp Gln Lys Val Pro Arg
                         195                    200                    205

 20   Gly Leu Arg Asn Glu Glu Ala Pro Gln Glu Lys Lys Ala Lys Leu His
              210                    215                    220

      Glu Gln Pro Gln Phe Gln Gly Ala Pro Gly Asp Leu Ser Val Pro Ala
 25   225                    230                    235                    240

      Val Glu Lys Gly Arg Ala His Gly Leu Thr Arg Glu Asp Thr Ile Lys
                         245                    250                    255

 30   Asn Gly Ser Gly Val Lys His Gln Ile Ala Ser Asp Met Pro Ser Asp
                         260                    265                    270

      Arg Lys Arg Ser Pro Ser Val Ser Arg Asp Gln Asn Arg Arg Tyr Glu
                         275                    280                    285
```

Gln Ser Glu Glu Arg Glu Asp Tyr Ser Gln Tyr Val Pro Ser Asp Gly
   290                  295              300

5     Thr Met Pro Arg Ser Pro Ser Asp Tyr Ala Asp Arg Arg Ser Gln Arg
     305           310          315            320

Glu Pro Gln Phe Tyr Glu Glu Pro Gly His Leu Asn Tyr Arg Asp Ser
          325           330           335

10

Asn Arg Arg Gly His Arg His Ser Lys Glu Tyr Ile Val Asp Asp Glu
        340           345          350

Asp Val Glu Ser Arg Asp Glu Tyr Glu Arg Gln Arg Arg Glu Glu Glu
        355         360          365
15

Tyr Gln Ala Arg Tyr Arg Ser Asp Pro Asn Leu Ala Arg Tyr Pro Val
     370           375          380

Lys Pro Gln Pro Tyr Glu Glu Gln Met Arg Ile His Ala Glu Val Ser
     385          390         395          400
20

Arg Ala Arg His Glu Arg Arg His Ser Asp Val Ser Leu Ala Asn Ala
        405          410          415

25

Glu Leu Glu Asp Ser Arg Ile Ser Leu Leu Arg Met Asp Arg Pro Ser
        420          425         430

Arg Gln Arg Ser Val Ser Glu Arg Arg Ala Ala Met Glu Asn Gln Arg
        435         440         445
30

Ser Tyr Ser Met Glu Arg Thr Arg Glu Ala Gln Gly Gln Ser Ser Tyr
     450          455         460

```
      Pro Gln Arg Thr Ser Asn His Ser Pro Pro Thr Pro Arg Arg Ser Pro
      465               470           475               480

      Ile Pro Leu Asp Arg Pro Asp Met Arg Arg Ala Asp Ser Leu Arg Lys
   5                   485               490               495

      Gln His His Leu Asp Pro Ser Ser Ala Val Arg Lys Thr Lys Arg Glu
                      500               505               510

  10  Lys Met Glu Thr Met Leu Arg Asn Asp Ser Leu Ser Ser Asp Gln Ser
                      515               520               525

      Glu Ser Val Arg Pro Pro Pro Pro Arg Pro His Lys Ser Lys Lys Gly
          530               535               540
  15
      Gly Lys Met Arg Gln Val Ser Leu Ser Ser Ser Glu Glu Glu Leu Ala
      545               550               555               560

      Ser Thr Pro Glu Tyr Thr Ser Cys Asp Asp Val Glu Leu Glu Ser Glu
                      565               570               575

      Ser Val Ser Glu Lys Gly Asp Ser Gln Lys Gly Lys Arg Lys Thr Ser
                      580               585               590

  25  Glu Gln Gly Val Leu Ser Asp Ser Asn Thr Arg Ser Glu Arg Gln Lys
                      595               600               605

      Lys Arg Met Tyr Tyr Gly Gly His Ser Leu Glu Glu Asp Leu Glu Trp
          610               615               620
  30
      Ser Glu Pro Gln Ile Lys Asp Ser Gly Val Asp Thr Cys Ser Ser Thr
      625               630               635               640

      Thr Leu Asn Glu Glu His Ser His Ser Asp Lys His Pro Val Thr Trp
```

645 650 655

Gln Pro Ser Lys Asp Gly Asp Arg Leu Ile Gly Arg Ile Leu Leu Asn
660 665 670

5

Lys Arg Leu Lys Asp Gly Ser Val Pro Arg Asp Ser Gly Ala Met Leu
675 680 685

Gly Leu Lys Val Val Gly Gly Lys Met Thr Glu Ser Gly Arg Leu Cys
10 690 695 700

Ala Phe Ile Thr Lys Val Lys Lys Gly Ser Leu Ala Asp Thr Val Gly
705 710 715 720

15 His Leu Arg Pro Gly Asp Glu Val Leu Glu Trp Asn Gly Arg Leu Leu
725 730 735

Gln Gly Ala Thr Phe Glu Glu Val Tyr Asn Ile Ile Leu Glu Ser Lys
740 745 750

20 Pro Glu Pro Gln Val Glu Leu Val Val Ser Arg Pro Ile Gly Asp Ile
755 760 765

Pro Arg Ile Pro Asp Ser Thr His Ala Gln Leu Glu Ser Ser Ser Ser
25 770 775 780

Ser Phe Glu Ser Gln Lys Met Asp Arg Pro Ser Ile Ser Val Thr Ser
785 790 795 800

30 Pro Met Ser Pro Gly Met Leu Arg Asp Val Pro Gln Phe Leu Ser Gly
805 810 815

Gln Leu Ser Ile Lys Leu Trp Phe Asp Lys Val Gly His Gln Leu Ile
820 825 830

```
    Val Thr Ile Leu Gly Ala Lys Asp Leu Pro Ser Arg Glu Asp Gly Arg
            835             840             845

 5  Pro Arg Asn Pro Tyr Val Lys Ile Tyr Phe Leu Pro Asp Arg Ser Asp
            850             855             860

    Lys Asn Lys Arg Arg Thr Lys Thr Val Lys Lys Thr Leu Glu Pro Lys
    865             870             875             880

10
    Trp Asn Gln Thr Phe Ile Tyr Ser Pro Val His Arg Arg Glu Phe Arg
                    885             890             895

    Glu Arg Met Leu Glu Ile Thr Leu Trp Asp Gln Ala Arg Val Arg Glu
15              900             905             910

    Glu Glu Ser Glu Phe Leu Gly Glu Ile Leu Ile Glu Leu Glu Thr Ala
                915             920             925

20  Leu Leu Asp Asp Glu Pro His Trp Tyr Lys Leu Gln Thr His Asp Val
                930             935             940

    Ser Ser Leu Pro Leu Pro Arg Pro Ser Pro Tyr Leu Pro Arg Arg Gln
    945             950             955             960

25
    Leu His Gly Glu Ser Pro Thr Arg Arg Leu Gln Arg Ser Lys Arg Ile
                965             970             975

    Ser Asp Ser Glu Val Ser Asp Tyr Asp Cys Glu Asp Gly Val Gly Val
30              980             985             990

    Val Ser Asp Tyr Arg His Asn Gly Arg Asp Leu Gln Ser Ser Thr Leu


        995             1000            1005
```

```
        Ser Val Pro Glu Gln Val Met Ser Ser Asn His Cys Ser Pro Ser Gly
            1010                1015                1020

        Ser Pro His Arg Val Asp Val Ile Gly Arg Thr Arg Ser Trp Ser Pro
 5      1025                1030                1035                1040

        Ser Ala Pro Pro Pro Gln Arg Asn Val Glu Gln Gly His Arg Gly Thr
                        1045                1050                1055

10      Arg Ala Thr Gly His Tyr Asn Thr Ile Ser Arg Met Asp Arg His Arg
                    1060                1065                1070

        Val Met Asp Asp His Tyr Ser Ser Asp Arg Asp Arg Asp Cys Glu Ala
                    1075                1080                1085
15
        Ala Asp Arg Gln Pro Tyr His Arg Ser Arg Ser Thr Glu Gln Arg Pro
            1090                1095                1100

        Leu Leu Glu Arg Thr Thr Thr Arg Ser Arg Ser Ser Glu Arg Pro Asp
20      1105                1110                1115                1120

        Thr Asn Leu Met Arg Ser Met Pro Ser Leu Met Thr Gly Arg Ser Ala
                        1125                1130                1135

25      Pro Pro Ser Pro Ala Leu Ser Arg Ser His Pro Arg Thr Gly Ser Val
                        1140                1145                1150

        Gln Thr Ser Pro Ser Ser Thr Pro Gly Thr Gly Arg Arg Gly Arg Gln
                    1155                1160                1165
30
        Leu Pro Gln Leu Pro Pro Lys Gly Thr Leu Glu Arg Ser Ala Met Asp
                    1170                1175                1180

        Ile Glu Glu Arg Asn Arg Gln Met Lys Leu Asn Lys Tyr Lys Gln Val
```

```
        1185              1190              1195              1200

     Ala Gly Ser Asp Pro Arg Leu Glu Gln Asp Tyr His Ser Lys Tyr Arg
                  1205              1210              1215

  5

     Ser Gly Trp Asp Pro His Arg Gly Ala Asp Thr Val Ser Thr Lys Ser
                  1220              1225              1230

     Ser Asp Ser Asp Val Ser Asp Val Ser Ala Val Ser Arg Thr Ser Ser
 10          1235              1240              1245

     Ala Ser Arg Phe Ser Ser Thr Ser Tyr Met Ser Val Gln Ser Glu Arg
          1250              1255              1260

 15  Pro Arg Gly Asn Arg Lys Ile Ser Val Phe Thr Ser Lys Met Gln Asn
     1265              1270              1275              1280

     Arg Gln Met Gly Val Ser Gly Lys Asn Leu Thr Lys Ser Thr Ser Ile
                  1285              1290              1295

 20  Ser Gly Asp Met Cys Ser Leu Glu Lys Asn Asp Gly Ser Gln Ser Asp
                  1300              1305              1310

     Thr Ala Val Gly Ala Leu Gly Thr Ser Gly Lys Lys Arg Arg Ser Ser
 25          1315              1320              1325

     Ile Gly Ala Lys Met Val Ala Ile Val Gly Leu Ser Arg Lys Ser Arg
          1330              1335              1340

 30  Ser Ala Ser Gln Leu Ser Gln Thr Glu Gly Gly Gly Lys Lys Leu Arg
     1345              1350              1355              1360

     Ser Thr Val Gln Arg Ser Thr Glu Thr Gly Leu Ala Val Glu Met Arg
                  1365              1370              1375
```

```
     Asn Trp Met Thr Arg Gln Ala Ser Arg Glu Ser Thr Asp Gly Ser Met
              1380              1385              1390

 5   Asn Ser Tyr Ser Ser Glu Gly Asn Leu Ile Phe Pro Gly Val Arg Leu
          1395                   1400              1405

     Ala Ser Asp Ser Gln Phe Ser Asp Phe Leu Asp Gly Leu Gly Pro Ala
          1410              1415              1420
10
     Gln Leu Val Gly Arg Gln Thr Leu Ala Thr Pro Ala Met Gly Asp Ile
     1425              1430              1435                   1440

     Gln Val Gly Met Met Asp Lys Lys Gly Gln Leu Glu Val Glu Ile Ile
15            1445              1450              1455

     Arg Ala Arg Gly Leu Val Val Lys Pro Gly Ser Lys Thr Leu Pro Ala
              1460              1465              1470

20   Pro Tyr Val Lys Val Tyr Leu Leu Asp Asn Gly Val Cys Ile Ala Lys
          1475              1780              1485

     Lys Lys Thr Lys Val Ala Arg Lys Thr Leu Glu Pro Leu Tyr Gln Gln
          1490              1495              1500
25
     Leu Leu Ser Phe Glu Glu Ser Pro Gln Gly Arg Val Leu Gln Ile Ile
     1505              1510              1515              1520

     Val Trp Gly Asp Tyr Gly Arg Met Asp His Lys Ser Phe Met Gly Val
30            1525              1530              1535

     Ala Gln Ile Leu Leu Asp Glu Leu Glu Leu Ser Asn Met Val Ile Gly
              1540              1545              1550
```

```
Trp Phe Lys Leu Phe Pro Pro Ser Ser Leu Val Asp Pro Thr Ser Ala
         1555               1560               1565

Pro Leu Thr Arg Arg Ala Ser Gln Ser Ser Leu Glu Ser Ser Thr Gly
         1570               1575               1580

Pro Ser Tyr Ser Arg Ser
    1585          1590
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gcttccctag ggtggttcgg ctccgccaaa c atg tcg gct ccg ctc ggg ccc          52
                                    Met Ser Ala Pro Leu Gly Pro
                                     1                   5

cgg ggc cgc ccg gct ccc acc ccg gcg gcc tct caa cct cct ccg cag        100
Arg Gly Arg Pro Ala Pro Thr Pro Ala Ala Ser Gln Pro Pro Pro Gln
            10               15               20

ccc gag atg ccg gac ctc agc cac ctc acg gaa gag gag agg aaa atc        148
Pro Glu Met Pro Asp Leu Ser His Leu Thr Glu Glu Glu Arg Lys Ile
        25               30               35

atc ctg gct gtc atg gat cgt cag aag aaa gaa gag gag aag gag cag        196
Ile Leu Ala Val Met Asp Arg Gln Lys Lys Glu Glu Glu Lys Glu Gln
   40               45               50               55

tcc gtg ctc aag atc aaa gaa gaa cac aaa gca caa ccg aca cag tgg        244
Ser Val Leu Lys Ile Lys Glu Glu His Lys Ala Gln Pro Thr Gln Trp
            60               65               70
```

```
ttt ccc ttt agt ggg atc act gaa ctg gta aat aac gtt ctg cag ccc        292
Phe Pro Phe Ser Gly Ile Thr Glu Leu Val Asn Asn Val Leu Gln Pro
             75                   80                   85
```

5

```
cag caa aaa caa ccc aat gag aag gag ccc cag aca aag ctg cac caa        340
Gln Gln Lys Gln Pro Asn Glu Lys Glu Pro Gln Thr Lys Leu His Gln
             90                   95                  100
```

10

```
caa ttt gaa atg tat aag gag caa gtc aag aag atg gga gag gaa tcg        388
Gln Phe Glu Met Tyr Lys Glu Gln Val Lys Lys Met Gly Glu Glu Ser
            105                  110                  115
```

15

```
cag cag cag caa gag cag aag ggt gat gcc ccg acc tgt ggc atc tgc        436
Gln Gln Gln Gln Glu Gln Lys Gly Asp Ala Pro Thr Cys Gly Ile Cys
            120                  125                  130                  135
```

20

```
cac aag aca aaa ttt gca gat gga tgc ggc cat aat tgt tcc tat tgc        484
His Lys Thr Lys Phe Ala Asp Gly Cys Gly His Asn Cys Ser Tyr Cys
                      140                  145                  150
```

25

```
caa acc aag ttc tgt gct cga tgt gga ggt cga gtg tct tta cgc tca        532
Gln Thr Lys Phe Cys Ala Arg Cys Gly Gly Arg Val Ser Leu Arg Ser
                      155                  160                  165
```

```
aac aag gtt atg tgg gtg tgt aat ttg tgc cga aaa caa caa gaa atc        580
Asn Lys Val Met Trp Val Cys Asn Leu Cys Arg Lys Gln Gln Glu Ile
                      170                  175                  180
```

30

```
ctc act aaa tca gga gca tgg ttt tat aat agt ggg tct aac aca ctg        628
Leu Thr Lys Ser Gly Ala Trp Phe Tyr Asn Ser Gly Ser Asn Thr Leu
            185                  190                  195
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```
cag caa cct gat caa aag gtt cct cga ggg ctt cga aat gag gaa gcc        676
```

```
         Gln Gln Pro Asp Gln Lys Val Pro Arg Gly Leu Arg Asn Glu Glu Ala
         200                 205             210                 215


         cct cag gag aag aaa gca aaa cta cac gag cag ccc cag ttc caa gga      724
     5   Pro Gln Glu Lys Lys Ala Lys Leu His Glu Gln Pro Gln Phe Gln Gly
                         220             225                 230


         gcc cca ggt gac tta tca gta cct gca gtt gag aaa ggc cga gct cat      772
    10   Ala Pro Gly Asp Leu Ser Val Pro Ala Val Glu Lys Gly Arg Ala His
                         235             240                 245


         ggg ctc aca aga cag gat act att aaa aat gga tca gga gtg aag cac      820
         Gly Leu Thr Arg Gln Asp Thr Ile Lys Asn Gly Ser Gly Val Lys His
    15                   250             255                 260


         cag att gcc agt gac atg cct tca gac aga aaa cga agt cca tca gtg      868
         Gln Ile Ala Ser Asp Met Pro Ser Asp Arg Lys Arg Ser Pro Ser Val
                         265             270                 275


    20   tcc agg gat caa aat cga aga tac gag caa agt gaa gaa aga gag gac      916
         Ser Arg Asp Gln Asn Arg Arg Tyr Glu Gln Ser Glu Glu Arg Glu Asp
         280             285                 290                 295


         tac tca cag tat gtt cct tca gat ggt aca atg cca aga tct cct tcg      964
    25   Tyr Ser Gln Tyr Val Pro Ser Asp Gly Thr Met Pro Arg Ser Pro Ser
                         300             305                 310


         gat tat gct gat aga cga tct cag cgt gag cct caa ttt tat gaa gaa     1012
         Asp Tyr Ala Asp Arg Arg Ser Gln Arg Glu Pro Gln Phe Tyr Glu Glu
    30                   315             320                 325


         cct ggt cat tta aat tac agg gat tct aac agg aga ggc cat aga cat     1060
         Pro Gly His Leu Asn Tyr Arg Asp Ser Asn Arg Arg Gly His Arg His
                         330             335                 340
```

```
tcc aaa gag tat att gtg gat gat gaa gat gtg gag agc aga gat gaa        1108
Ser Lys Glu Tyr Ile Val Asp Asp Glu Asp Val Glu Ser Arg Asp Glu
    345              350              355
```

5

```
tat gaa aga caa agg aga gag gag gaa tac cag gca cgc tac aga agt        1156
Tyr Glu Arg Gln Arg Arg Glu Glu Glu Tyr Gln Ala Arg Tyr Arg Ser
360              365              370              375
```

10
```
gat cca aat ctg gcc cgg tat ccc gta aag cca caa ccc tac gaa gaa        1204
Asp Pro Asn Leu Ala Arg Tyr Pro Val Lys Pro Gln Pro Tyr Glu Glu
            380              385              390
```

```
caa atg cgc atc cac gct gag gtg tcc agg gca cga cat gag aga agg        1252
Gln Met Arg Ile His Ala Glu Val Ser Arg Ala Arg His Glu Arg Arg
15               395              400              405
```

```
cac agt gat gtt tct ttg gca aac gct gaa cta gaa gat tcc agg att        1300
His Ser Asp Val Ser Leu Ala Asn Ala Glu Leu Glu Asp Ser Arg Ile
            410              415              420
20
```

```
tct ctg cta agg atg gat aga cca tca agg caa aga tct gta tct gaa        1348
Ser Leu Leu Arg Met Asp Arg Pro Ser Arg Gln Arg Ser Val Ser Glu
    425              430              435
```
25

```
cgt aga gct gca atg gaa aac caa cga tcg tat tca atg gaa aga act        1396
Arg Arg Ala Ala Met Glu Asn Gln Arg Ser Tyr Ser Met Glu Arg Thr
440              445              450              455
```

30
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cga gag gct cag gga caa agt tct tat cca caa agg acc tca aat cat        1444
Arg Glu Ala Gln Gly Gln Ser Ser Tyr Pro Gln Arg Thr Ser Asn His
                460              465              470
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agt cct ccc acc cct cgg cgg agc cct ata ccg ctt gat aga cca gac        1492
```

```
        Ser Pro Pro Thr Pro Arg Arg Ser Pro Ile Pro Leu Asp Arg Pro Asp
                    475                 480                 485


        atg agg cgc gct gac tcc cta cgg aaa cag cac cac tta gat ccc agc      1540
    5   Met Arg Arg Ala Asp Ser Leu Arg Lys Gln His His Leu Asp Pro Ser
                490                 495                 500


        tct gct gtg agg aaa acg aag cga gaa aaa atg gaa acc atg tta agg      1588
        Ser Ala Val Arg Lys Thr Lys Arg Glu Lys Met Glu Thr Met Leu Arg
   10       505                 510                 515


        aat gat tct ttg agt tca gac cag tcc gag tca gtg agg ccg ccc cca      1636
        Asn Asp Ser Leu Ser Ser Asp Gln Ser Glu Ser Val Arg Pro Pro Pro
        520                 525                 530                 535
   15

        cca agg cct cat aaa tcc aag aaa gga ggt aaa atg cgc cag gtt tca      1684
        Pro Arg Pro His Lys Ser Lys Lys Gly Gly Lys Met Arg Gln Val Ser
                    540                 545                 550


   20   ctg agc agc tcg gag gag gag ctg gca tcc aca cct gag tat aca agc      1732
        Leu Ser Ser Ser Glu Glu Glu Leu Ala Ser Thr Pro Glu Tyr Thr Ser
                    555                 560                 565


        tgt gat gat gtg gag ctg gaa agc gag agt gtg agt gag aaa ggg gac      1780
   25   Cys Asp Asp Val Glu Leu Glu Ser Glu Ser Val Ser Glu Lys Gly Asp
                570                 575                 580


        agt caa aag gga aaa aga aaa act agt gag cag gga gtt ttg tcg gat      1828
        Ser Gln Lys Gly Lys Arg Lys Thr Ser Glu Gln Gly Val Leu Ser Asp
  ·30        585                 590                 595


        tct aac acc agg tct gag aga caa aag aaa agg atg tac tat ggt ggc      1876
        Ser Asn Thr Arg Ser Glu Arg Gln Lys Lys Arg Met Tyr Tyr Gly Gly
        600                 605                 610                 615
```

```
      cac tct ttg gaa gag gat ttg gaa tgg tct gag cct cag att aag gac     1924
      His Ser Leu Glu Glu Asp Leu Glu Trp Ser Glu Pro Gln Ile Lys Asp
                      620                 625                 630
  5

      tct ggg gta gat acc tgt agt agc aca acc ctt aac gag gag cat agc     1972
      Ser Gly Val Asp Thr Cys Ser Ser Thr Thr Leu Asn Glu Glu His Ser
                      635                 640                 645

 10   cat agt gat aag cac cct gtg acc tgg cag cca tcc aaa gat gga gat     2020
      His Ser Asp Lys His Pro Val Thr Trp Gln Pro Ser Lys Asp Gly Asp
                  650                 655                 660

      cgc cta att ggt cgt att tta tta aat aag cgt tta aaa gat ggg agt     2068
 15   Arg Leu Ile Gly Arg Ile Leu Leu Asn Lys Arg Leu Lys Asp Gly Ser
                  665                 670                 675

      gta cct cga gac tca gga gca atg ctg ggc tta aag gtt gta gga gga     2116
      Val Pro Arg Asp Ser Gly Ala Met Leu Gly Leu Lys Val Val Gly Gly
      680                 685                 690                 695
 20

      aag atg act gaa tca ggt cga ctt tgt gca ttt att acc aaa gta aaa     2164
      Lys Met Thr Glu Ser Gly Arg Leu Cys Ala Phe Ile Thr Lys Val Lys
                      700                 705                 710
 25

      aaa gga agt tta gct gat act gta gga cat ctt aga cca ggt gat gaa     2212
      Lys Gly Ser Leu Ala Asp Thr Val Gly His Leu Arg Pro Gly Asp Glu
                  715                 720                 725

 30   gtc ttg gaa tgg aat ggg agg cta ttg caa gga gcc aca ttt gag gaa     2260
      Val Leu Glu Trp Asn Gly Arg Leu Leu Gln Gly Ala Thr Phe Glu Glu
                  730                 735                 740

      gtt tac aac att att cta gaa tcc aaa cct gaa cca caa gtt gag ctt     2308
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Val Tyr Asn Ile Ile Leu Glu Ser Lys Pro Glu Pro Gln Val Glu Leu
   745          750          755

gtt gtt tca agg cca att gga gat att cct aga ata cct gat agc acg   2356
Val Val Ser Arg Pro Ile Gly Asp Ile Pro Arg Ile Pro Asp Ser Thr
760         765         770          775

cat gca caa ctg gaa tcc agt tct agc tca ttt gaa tct caa aaa atg   2404
His Ala Gln Leu Glu Ser Ser Ser Ser Ser Phe Glu Ser Gln Lys Met
         780         785         790

gac cgt cct tct ata tcc gtt acc tca ccc atg agt cct ggc atg ctg   2452
Asp Arg Pro Ser Ile Ser Val Thr Ser Pro Met Ser Pro Gly Met Leu
      795         800         805

agg gat gtc ccg cag ttc tta tct gga cag ctt tca ata aaa cta tgg   2500
Arg Asp Val Pro Gln Phe Leu Ser Gly Gln Leu Ser Ile Lys Leu Trp
     810         815         820

ttt gac aag gtt ggt cac cag ttg ata gtt aca att ttg gga gca aag   2548
Phe Asp Lys Val Gly His Gln Leu Ile Val Thr Ile Leu Gly Ala Lys
   825        830        835

gat ctc cct tcc agg gaa gat ggg agg cca agg aat cct tat gtt aag   2596
Asp Leu Pro Ser Arg Glu Asp Gly Arg Pro Arg Asn Pro Tyr Val Lys
840         845         850         855

att tac ttc ctt cca gat aga agt gat aaa aat aag aga aga aca aaa   2644
Ile Tyr Phe Leu Pro Asp Arg Ser Asp Lys Asn Lys Arg Arg Thr Lys
         860         865         870

aca gtc aag aaa act ttg gaa ccc aaa tgg aac cag act ttc att tat   2692
Thr Val Lys Lys Thr Leu Glu Pro Lys Trp Asn Gln Thr Phe Ile Tyr
         875         880         885

```
        tct cct gtc cac cga aga gaa ttc cgt gaa cga atg ctg gaa att acc       2740
        Ser Pro Val His Arg Arg Glu Phe Arg Glu Arg Met Leu Glu Ile Thr
            890             895             900
  5

        ctt tgg gat caa gct aga gtt cga gaa gaa gag agc gaa ttc tta gga       2788
        Leu Trp Asp Gln Ala Arg Val Arg Glu Glu Glu Ser Glu Phe Leu Gly
            905             910             915

 10     gag att tta att gaa ttg gaa aca gct ttg cta gat gat gag ccg cac       2836
        Glu Ile Leu Ile Glu Leu Glu Thr Ala Leu Leu Asp Asp Glu Pro His
        920             925             930             935

        tgg tat aag ctg cag acc cat gat gtc tcc tca ttg cca ctc cct cgc       2884
 15     Trp Tyr Lys Leu Gln Thr His Asp Val Ser Ser Leu Pro Leu Pro Arg
                    940             945             950

        cct tcc cca tat ctg ccc cgg agg cag ctc cat gga gag agc cca acg       2932
        Pro Ser Pro Tyr Leu Pro Arg Arg Gln Leu His Gly Glu Ser Pro Thr
                    955             960             965

        cgc agg ctg caa agg tcg aag aga ata agt gac agt gaa gtg tct gac       2980
        Arg Arg Leu Gln Arg Ser Lys Arg Ile Ser Asp Ser Glu Val Ser Asp
                970             975             980
 25

        tac gac tgc gag gat ggc gtg gga gta gtg tca gat tat cga cac aat       3028
        Tyr Asp Cys Glu Asp Gly Val Gly Val Val Ser Asp Tyr Arg His Asn
            985             990             995

 30     ggc cgc gat ctt caa agc tcc acg ttg tcg gtg cca gaa caa gtc atg       3076
        Gly Arg Asp Leu Gln Ser Ser Thr Leu Ser Val Pro Glu Gln Val Met
        1000            1005            1010            1015

        tca tca aat cat tgc tca cca tca ggg tct cct cat cga gta gat gtt       3124
```

Ser Ser Asn His Cys Ser Pro Ser Gly Ser Pro His Arg Val Asp Val
                1020                    1025                    1030

ata gga agg aca agg tca tgg tcg cct agt gcc cct cct cct caa agg     3172
5   Ile Gly Arg Thr Arg Ser Trp Ser Pro Ser Ala Pro Pro Pro Gln Arg
                1035                    1040                    1045

aat gtg gaa cag ggg cac cga ggg aca cgt gct act ggc cat tac aac     3220
    Asn Val Glu Gln Gly His Arg Gly Thr Arg Ala Thr Gly His Tyr Asn
10              1050                    1055                    1060

aca att agc cga atg gat aga cac cgt gtc atg gat gac cac tac tct     3268
    Thr Ile Ser Arg Met Asp Arg His Arg Val Met Asp Asp His Tyr Ser
                1065                    1070                    1075

15

tca gat aga gac agg gat tgt gaa gca gca gat aga cag cca tat cac     3316
    Ser Asp Arg Asp Arg Asp Cys Glu Ala Ala Asp Arg Gln Pro Tyr His
    1080                    1085                    1090                    1095

20  aga tcc aga tca aca gaa caa cgg cct ctc cta gag cgg acc acc acc     3364
    Arg Ser Arg Ser Thr Glu Gln Arg Pro Leu Leu Glu Arg Thr Thr Thr
                        1100                    1105                    1110

cgc tcc aga tcc tct gaa cgt cct gat aca aac ctc atg agg tcg atg     3412
25  Arg Ser Arg Ser Ser Glu Arg Pro Asp Thr Asn Leu Met Arg Ser Met
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cct tca tta atg act gga aga tct gcc cct cct tca cct gcc tta tcg     3460
    Pro Ser Leu Met Thr Gly Arg Ser Ala Pro Pro Ser Pro Ala Leu Ser
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agg tct cac cct cgt acc ggg tct gtc cag aca agc cca tca agt act     3508
    Arg Ser His Pro Arg Thr Gly Ser Val Gln Thr Ser Pro Ser Ser Thr
                1145                    1150                    1155

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ccg gga aca gga cga agg ggc cga cag ctt cca cag ctt cca cca aag      3556
Pro Gly Thr Gly Arg Arg Gly Arg Gln Leu Pro Gln Leu Pro Pro Lys
    1160            1165            1170            1175
```

```
gga aca ttg gag aga agt gct atg gat ata gag gag aga aat cgc caa      3604
Gly Thr Leu Glu Arg Ser Ala Met Asp Ile Glu Glu Arg Asn Arg Gln
            1180            1185            1190
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```
atg aaa ctt aac aaa tac aaa cag gta gcc gga tca gac ccc aga ctg      3652
Met Lys Leu Asn Lys Tyr Lys Gln Val Ala Gly Ser Asp Pro Arg Leu
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gag caa gat tac cat tcg aag tat cgc tca gga tgg gat cca cat aga      3700
Glu Gln Asp Tyr His Ser Lys Tyr Arg Ser Gly Trp Asp Pro His Arg
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ggg gca gat act gtt tcc act aaa tcc tcg gac agt gat gta agt gat      3748
Gly Ala Asp Thr Val Ser Thr Lys Ser Ser Asp Ser Asp Val Ser Asp
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Val Ser Ala Val Ser Arg Thr Ser Ser Ala Ser Arg Phe Ser Ser Thr
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agc tac atg tcc gtc caa tca gag cgg ccg aga gga aac agg aaa atc      3844
Ser Tyr Met Ser Val Gln Ser Glu Arg Pro Arg Gly Asn Arg Lys Ile
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Ser Val Phe Thr Ser Lys Met Gln Asn Arg Gln Met Gly Val Ser Gly
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```
           Lys Asn Leu Thr Lys Ser Thr Ser Ile Ser Gly Asp Met Cys Ser Leu
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           gag aag aat gac ggc agc cag tcc gac act gca gtg ggc gcc ctg ggt        3988
     5     Glu Lys Asn Asp Gly Ser Gln Ser Asp Thr Ala Val Gly Ala Leu Gly
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           acc agt ggc aag aag cgg cga tct agc att ggg gcc aaa atg gta gct        4036
           Thr Ser Gly Lys Lys Arg Arg Ser Ser Ile Gly Ala Lys Met Val Ala
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           att gtt ggt ctc tca cgg aaa agt cgc agt gcc tct caa ctc agc caa        4084
           Ile Val Gly Leu Ser Arg Lys Ser Arg Ser Ala Ser Gln Leu Ser Gln
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           Thr Glu Gly Gly Gly Lys Lys Leu Arg Ser Thr Val Gln Arg Ser Thr
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    25     Ser Arg Glu Ser Thr Asp Gly Ser Met Asn Ser Tyr Ser Ser Glu Gly
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           Asp Phe Leu Asp Gly Leu Gly Pro Ala Gln Leu Val Gly Arg Gln Thr
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ctg gct act cct gca atg ggt gac att cag gtg gga atg atg gat aaa    4372
Leu Ala Thr Pro Ala Met Gly Asp Ile Gln Val Gly Met Met Asp Lys
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5

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10
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Pro Gln Gly Arg Val Leu Gln Ile Ile Val Trp Gly Asp Tyr Gly Arg
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25

```
atg gat cac aaa tcc ttt atg gga gtg gcc cag ata ctc tta gat gaa    4660
Met Asp His Lys Ser Phe Met Gly Val Ala Gln Ile Leu Leu Asp Glu
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```

30
```
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```

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~~ CProject ~~

CProjectData

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09/617,099
2000-07-14        ~~        CProtein1Sequence

SEQ ID NO.

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sample of submitted file